



**UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/231,791	01/15/99	GUARINO	G Q-52856

IM62/0802  
SUGHRUE, MION, ZINN, MACPEAK & SEAS  
2100 PENNSYLVANIA AVENUE  
WASHINGTON DC 20037-3202

EXAMINER

VARCOE JR, F

ART UNIT	PAPER NUMBER
----------	--------------

1764

DATE MAILED:

08/02/00

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.  
**09/231,791**

Applicant(s)

**Guarino et al.**

Examiner

**Varcoe**

Group Art Unit  
**1764**



☒ Responsive to communication(s) filed on May 24, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claim

☒ Claim(s) 1-10 is/are pending in the applicat

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-10 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been

☒ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s) \_\_\_\_\_

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

Art Unit: 1764

## DETAILED ACTION

### *Claim Objections*

1. Claims 1-10 are objected to because of the following informalities: in claim 1 line 1, "modernizationof" is a typographical error. In claim 1 line 18, numeral "8" is not enclosed in parentheses. In claim 1, the inlet wall and the outlet wall are introduced without reference numerals, while references to those walls in the rest of the claims use the numbers 7 and 8. Consistency is required. It is suggested that each of the claims begin with an article such as "A" or "The."

In claims 3 and 8, "0,5" should be "0.5".

Claim 2 line 2 recites "a portion comprised between 5% and 50% the length". Should it read "a portion comprising between 5% and 50% of the length"?

Claim 7 line 2 recites "a length comprised between." Should it read "comprising?"

Claim 8 line 3 recites "a thickness comprised between." Should it read "comprising?"

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 1764

3. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claims 1 and 6, lines 11-12, "for a portion of the same of a prefixed length" is unclear.

Regarding claim 6, the phrase "of the radial or axial-radial type" renders the claim indefinite because the claims include elements not actually disclosed (those encompassed by "the type"), thereby rendering the scope of the claims unascertainable. See MPEP § 2173.05(d).

Claim 6 recites "provided with opposite perforated cylindrical walls for the inlet and outlet (7,8) of gases." This is unclear. The amendment to claim 1 fixing this problem should be used here as well.

In claim 10 line 4, it is unclear what the word "respectively" means.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 4-6, 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Farnham U.S. Patent No. 4,421,723.

Art Unit: 1764

With regard to claim 1, Farnham discloses construction of an assembly having an unperforated cylindrical wall (Figure 3 (67)) coaxial to the gas outlet wall (Figure 3 (65)) in the catalytic bed (12), the unperforated cylindrical wall (67) extending from an upper end of the gas outlet wall for a portion of the outlet wall of a prefixed length. Farnham Figure 3.

Farnham discloses a free-space between the gas outlet wall (65) and the unperforated wall (67). That free-space would be indicated by the lead line for reference number 67 in Figure 3 if that lead line were extended by an additional one-half of its length.

Farnham discloses providing means (Figure 3 (69)) for closing an upper end of the free-space between the unperforated wall (67) and the gas outlet wall (65), in proximity of the upper end of the gas outlet wall, thereby preventing a bypass of the catalytic bed or a recycling to the catalytic bed of the gas entering and leaving the reactor. Farnham Figure 3

With regard to claim 4, Farnham discloses the unperforated wall supported by the gas outlet wall. Farnham Figure 3.

With regard to claim 5, Farnham discloses a gas outlet wall having a diameter smaller than the diameter of the gas inlet wall and of the unperforated wall. Farnham Figure 3.

Farnham further discloses the unperforated wall supported by a gas-tight horizontal baffle (Figure 3 (71)) which protrudes above the upper end of the gas outlet wall and rests on the gas outlet wall. Farnham Figure 3.

Art Unit: 1764

With regard to claim 6, Farnham discloses a synthesis reactor comprising an external shell (Figure 1 (10)) a catalytic bed (Figure 3 (12)) provided with a perforated inlet wall (Figure 1 (22)) and a perforated outlet wall (Figure 3 (65)) in the shell.

Farnham discloses apparatus having an unperforated cylindrical wall (Figure 3 (67)) coaxial to the gas outlet wall (65) in the catalytic bed (12), the unperforated cylindrical wall (67) extending from an upper end of the gas outlet wall for a portion of the outlet wall of a prefixed length. Farnham Figure 3.

Farnham discloses defining a free-space between the gas outlet wall (65) and the unperforated wall (67). That free-space would be indicated by the lead line for reference number 67 in Figure 3 if that lead line were extended by an additional one-half of its length.

Farnham discloses providing means for closing the free-space between the unperforated wall (67) and the gas outlet wall (65), in proximity of the upper end of the gas outlet wall, preventing a bypass of the catalytic bed or a recycling to the catalytic bed of the gas entering and leaving the reactor. Farnham Figure 3.

With regard to claim 9, Farnham discloses the unperforated wall supported by the gas outlet wall. Farnham Figure 3.

With regard to claim 10, Farnham discloses a gas outlet wall having a diameter smaller than the diameter of the gas inlet wall and of the unperforated wall. Farnham Figure 3.

Art Unit: 1764

Farnham further discloses the unperforated wall supported by a gas-tight horizontal baffle (Figure 1 (71)) which protrudes above the upper end of the gas outlet wall and leans on the gas outlet wall. Farnham Figure 3.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 2, 3, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farnham U.S. Patent No. 4,421,723 as applied to claims 1, 4-6, 9 and 10 above.

Art Unit: 1764

With regard to claims 2 and 7, Farnham discloses essentially the same invention as the instant claim but fails expressly to disclose that the unperforated wall extends for a portion comprising between 5% and 50% of the length of the gas outlet wall.

At the time of the invention it would have been obvious to one skilled in the art to extend the unperforated wall for a distance comprising between 5% and 50% of the length of the gas outlet wall. The motivation would have arisen as a design choice.

The length of the unperforated wall can also be considered a result-effective variable. The wall could be extended while monitoring the extent of undesired bypassing of the catalyst by the process stream. When the bypassing has dropped to an acceptable level, the wall is long enough.

With regard to claims 3 and 8, Farnham discloses essentially the same invention as the instant claim but fails expressly to disclose that the free space has a thickness of between 0.5 and 10 cm.

At the time of the invention it would have been obvious to one skilled in the art to construct the free space with a thickness of between 0.5 and 10 cm. The motivation would have arisen as a design choice.

The thickness can also be considered a result-effective variable. The thickness could be extended while monitoring the performance of the system. When the performance reaches an acceptable level, the thickness can be considered adequate.



Art Unit: 1764

***Response to Arguments***

9. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

The objections to the Specification in the last Office action have been withdrawn, as have the majority of the claim objections and the Section 112 rejections.

***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick Varcoe, whose telephone number is (703) 306-5477. The examiner can normally be reached Monday through Friday from 9:00 am to 5:00 pm.

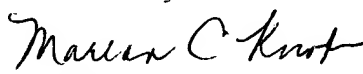
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marian Knode, can be reached on (703) 308-4311.

The FAX telephone number for this Group Art Unit is (703) 305-3599 (for Official papers after Final), (703) 305-5408 (for other Official papers) and (703) 305-6357 (for Unofficial papers).

When filing a FAX in Group 1700, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communications with the PTO that are not for entry into the file of the application. This will expedite processing your papers.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

RV  
July 31, 2000

  
MARIAN C. KNODE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700